Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site
Soda Springs, Idaho, January 2022

Site Cleanup Review and Additional Cleanup Actions Will be Proposed in 2022 to Protect Drinking Water

The U.S. Environmental Protection Agency (EPA), the Idaho Department of Environmental Quality (IDEQ) and the Multistate Environmental Response Trust (Multistate Trust) prepared this Fact Sheet to update the community on the history, current cleanup status, and planned future work at the Kerr-McGee Chemical Corp. – Soda Springs Plant Superfund Site in Soda Springs, ID (the Site).

Site History and the Multistate Trust

The approximately 547-acre Site is located at 1864 Highway 34, about 1.5 miles north of the City of Soda Springs (City). From 1963 to 1999, Kerr-McGee operated a plant that annually produced up to 4.5 million pounds of vanadium, an alloy used to make steel. From 1998 to 2000, Kerr-McGee operated a second plant that reprocessed calcine tailings to produce fertilizer. In 2001, Kerr-McGee capped the calcine area. The vanadium and fertilizer plants were demolished in 2002 and 2003.

In 2005, Kerr-McGee transferred the Site to Tronox LLC, a corporate shell that later filed for bankruptcy. As part of the 2011 Tronox bankruptcy settlement, the Multistate Trust was created to own, investigate, clean up, and facilitate reuse of the Site under EPA and IDEQ oversight. The Trustee of the private, independent Multistate Trust is Greenfield Environmental Multistate Trust LLC.

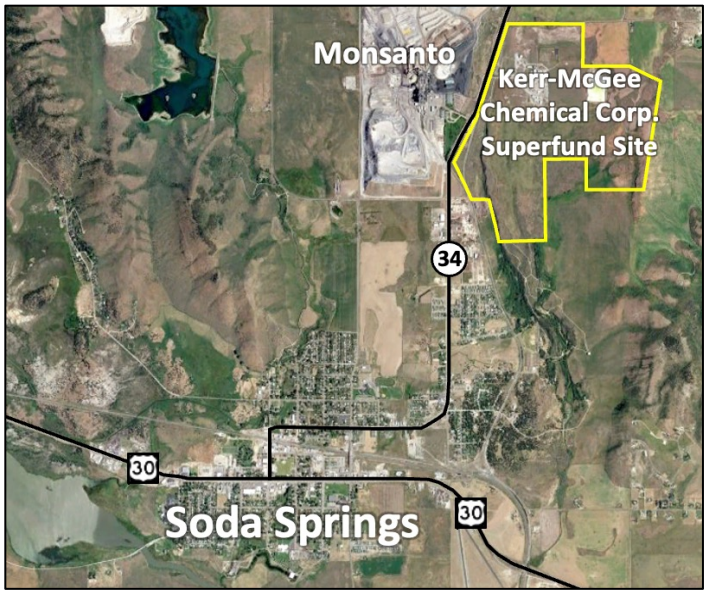
Upcoming Events and Milestones

Five-Year Review – Will be completed by EPA in 2022 to determine if cleanup actions are protective of human health and the environment. Interviews will be conducted to document perceived problems or successes with the remedy. To be interviewed, please contact Meshach Padilla.

Proposed Plan – Will be completed to propose adjustments to the Site cleanup approach.

Public Meeting and Public Comment Period – The Proposed Plan will be presented at a public meeting. A meeting notice will appear in the *Caribou County Sun*, EPA's Kerr-McGee Soda Springs website, and on the Multistate Trust's planned Soda Springs website. A public comment period will allow the public to provide input on the proposed cleanup approach.

Record of Decision (ROD) Amendment – After the public meeting and public comment period, a ROD Amendment (revision to final cleanup plan) will be prepared and issued to select the revised remedy, taking into consideration community feedback.



The Kerr-McGee Chemical Corp. Superfund Site (yellow outline) is located at 1864 Highway 34 in Soda Springs, Idaho, ~1.5 miles north of the City of Soda Springs. *Source: Multistate Trust*

Site Contamination

Wastes generated by vanadium production were stored in unlined ponds that contaminated groundwater and surface water. In 1995, EPA issued a Record of Decision for the cleanup plan that Kerr-McGee implemented by 2001. Remedies included elimination of uncontrolled liquid discharges from the Site (the main source of groundwater impacts), recycling of solid sources (later amended to capping of the same solid sources), groundwater monitoring, and institutional controls. During Five-Year Reviews conducted since then, EPA concluded that the remedy was not protective of human health and the environment; more remedial actions were required; and investigations were needed to identify additional sources of contamination and impacts to downgradient domestic wells by Site contamination, delineate contaminant plumes in groundwater, and evaluate risk to animals and plants.

Community Involvement

EPA is updating the Community Involvement Plan for informing and engaging the local community while working at the Site. Input from residents, businesses, local governments, community organizations, and others affected by the Site is desired to help shape this plan. Please contact Meshach Padilla at Padilla.Meshach@epa.gov or 206-553-2762 with suggestions or questions, or to schedule a community interview.

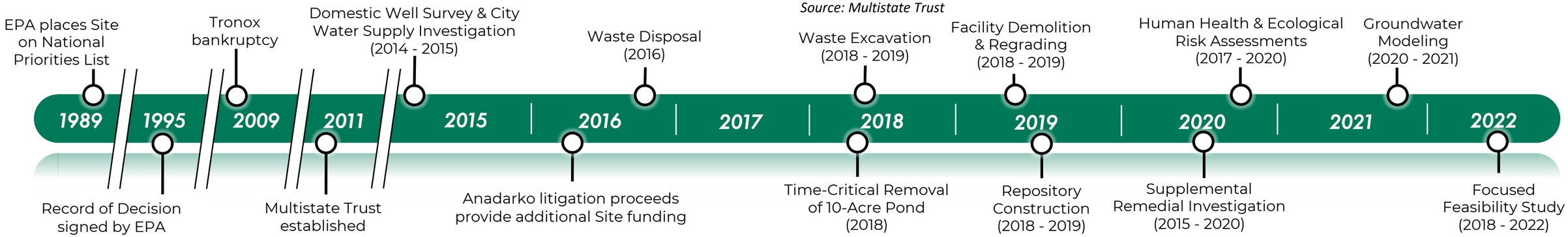
Timeline of Cleanup Progress

This timeline shows some of the key milestones and accomplishments that have been made in the cleanup of the Site.

Domestic Well Survey and City Water Supply Investigation – From November 2014 to April 2015, in coordination with EPA and IDEQ, the Multistate Trust and Monsanto jointly conducted a domestic well survey and sampling program to ensure area residents are not using private wells for domestic water supply in areas of contaminated groundwater. The Multistate Trust also regularly samples the City water supply to ensure Site-related contamination is not impacting the City's water supply.

Waste Disposal – In 2016, the Multistate Trust removed chemicals, wastes, and other materials previously abandoned on-Site by Tronox. A total of 910 tons of waste was removed, including 565 tons of hazardous waste and 77 tons of nonhazardous waste, and with 254 tons of metal and 14 tons of oil recycled.

Groundwater Modeling – In 2020 and 2021, the Multistate Trust performed groundwater modeling to evaluate the projected time to achieve cleanup based on actions completed to date.



Waste Excavation – In 2018 and 2019, waste materials that were buried throughout the Site were excavated and placed in a waste repository. Prior to excavation, rainfall and snowmelt allowed contamination associated with buried waste to move into the ground and underlying groundwater. More than 300,000 cubic yards of waste materials were excavated. This cleanup action reduced the time needed to reach cleanup goals in some areas by approximately 50 years.

Supplemental Remedial Investigation (SRI) – From 2015 to 2020, the Multistate Trust conducted an extensive field investigation to identify the chemicals released from the Site, locate where they were released, evaluate where the chemicals have moved over time, and determine how the chemicals are moving today. This investigation forms the basis for determining risks from Site-related chemicals and the best cleanup approaches.

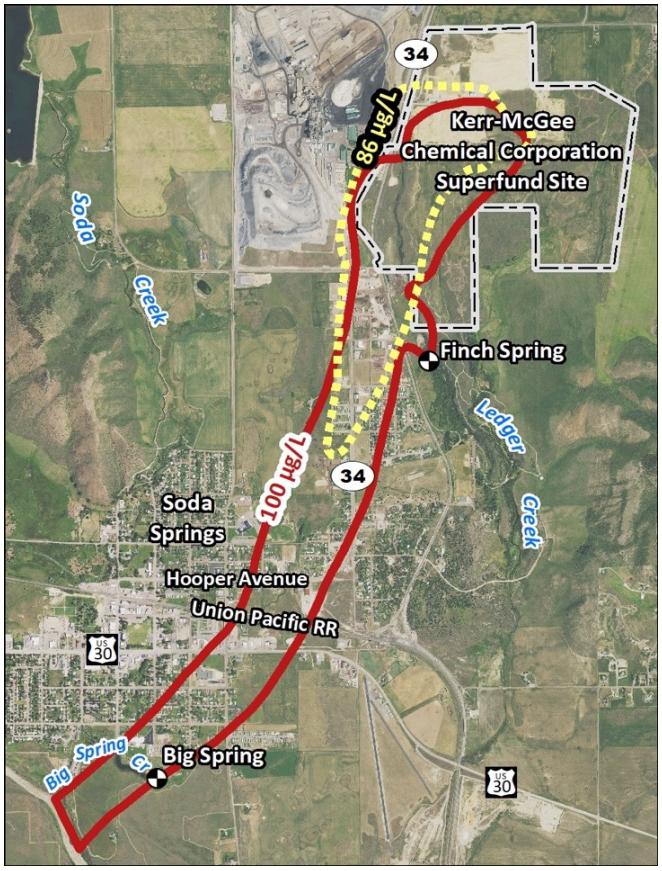
Human Health and Ecological Risk Assessments – From 2017 to 2020, a Human Health Risk Assessment and an Ecological Risk Assessment were conducted to determine what risks are present due to Site-related contamination. No human health risks were identified from soil, surface water, sediment, fish consumption, or leaching to groundwater from surface soils. However, potential human health risks exist from the hypothetical domestic use of groundwater on-Site and off-Site, and the hypothetical industrial use of groundwater on-Site. The Ecological Risk Assessment recommended that monitoring continue, but concluded no additional action was warranted based on lack of ecological risk.

Focused Feasibility Study (FFS) – In 2018 and 2019, the Multistate Trust conducted a variety of field investigation activities to support the evaluation of remedial alternatives in the FFS. This work included chemical testing of soils, measurement of water flow below ground, and a pilot test to evaluate groundwater treatment. In 2020 and 2021, the SRI, Risk Assessments, and FFS data collection were used to prepare the FFS Report for the Site. The FFS Report evaluates remedial alternatives to help select the most appropriate action. The Draft FFS Report was completed in 2021, and the Final FFS Report is anticipated to be approved by EPA in 2022.

Facility Demolition and Regrading – Due to the extremely poor condition of buildings and utility infrastructure, and to facilitate Site investigation, cleanup, and reuse, most Site buildings and infrastructure were demolished or decommissioned in 2018 and 2019. Seventeen buildings were demolished, one donated to the City, and two kept in place. Natural gas, water, and electrical supply lines to the Site were replaced. The Site was regraded to direct snowmelt and rainfall runoff away from former areas of contamination. These cleanup actions helped reduce the time to achieve Site cleanup and have promoted future productive Site reuse. *Source: Multistate Trust*

Repository Construction – In 2018 and 2019, an on-Site waste repository was constructed to hold waste from the 10-acre pond removal, waste excavation, and facility demolition. The repository is lined on the top and bottom and equipped with leachate collection.

Time-Critical Removal of 10-Acre Pond – In 2018, approximately 1.5 million gallons of hazardous liquid were removed from the 10-acre pond on-Site. The entire pond was removed to prevent leakage through a weakening pond liner. Soil sampling showed that the pond was removed before leakage occurred, which eliminated a significant contamination risk. *Source: Multistate Trust*



The outlines in this figure show the estimated areas where molybdenum (solid red line) and vanadium (dashed yellow line) may be present in groundwater and/or surface water above EPA's regional screening level for tap water (100 µg/L molybdenum, 86 µg/L vanadium). *Source: Multistate Trust*

Groundwater and Surface Water Monitoring and Sampling

From 1963 to 1999, Site operations resulted in groundwater contaminated with chemicals of concern, including molybdenum and vanadium. During its ownership of the Site, Kerr-McGee took EPA-required actions to lower concentrations of Site-related chemicals in on-Site and off-Site groundwater. To ensure the remedial actions remain protective of human health and the environment, EPA requires regular sampling and monitoring of groundwater and surface water. Since 1991, molybdenum and vanadium have been detected in surface water at Finch Spring, and molybdenum has been detected at Big Spring. Data from this long-term monitoring showed that the two springs met ecological cleanup standards around 2008.

What are Molybdenum and Vanadium?

Molybdenum (mo • **lyb** • de • num) and vanadium (va • **na** • di • um) are metallic elements widely found in nature and present in food such as lentils, black beans, oats, and dietary supplements (molybdenum), and milk, vegetables, grains, and cereals (vanadium). Small amounts of molybdenum are essential to a healthy diet, and small amounts of vanadium are normal in human and animal diets. Long-term, chronic exposure to excessive amounts of molybdenum or vanadium can pose health risks, including joint pain and gout-like effects (molybdenum) or lung irritation and kidney damage (vanadium). Both are used in industry to help strengthen structural metals and alloys. Molybdenum is also used in pigments, corrosion inhibitors, smoke suppressants, lubricants, and agricultural fertilizers.

Sources of Water in the City of Soda Springs

Public Tap Water: Provided by the City and delivered by pipes to your home, public tap water is tested regularly and **does not** contain high levels of molybdenum or vanadium. **Public tap water is safe for drinking, cooking, bathing, and irrigation.**

Groundwater: Located below the ground surface, groundwater has been found to contain elevated levels of molybdenum and vanadium in some areas around Soda Springs (see figure above). If a well is installed on your property, you should verify that it is not connected to your home's plumbing. **In the areas outlined in the figure above, groundwater (including well water) should not be used for drinking, cooking, bathing, irrigation of produce grown for human or animal consumption, filling swimming pools, or to irrigate feed for livestock.**

Surface Water: Surface water is located at ground level, such as in streams, creeks, rivers, lakes, and ponds. In Soda Springs, groundwater comes to the surface in some areas, including into basements and along roadways. In some areas where groundwater surfaces, the associated surface water may contain elevated levels of molybdenum and/or vanadium. **As a result, you should not use surface water for drinking, cooking, or bathing.** Surface water is safe for swimming and fishing.

Contact Us for More Information

EPA: Zoë Lipowski • 206-553-0526 • 800-424-4372, ext. 0526
Lipowski.Zoe@epa.gov

Meshach Padilla • 206-553-2762 • 800-424-4372, ext. 2762
Padilla.Meshach@epa.gov

IDEQ: Stan Christensen • 208-236-6160
Stan.Christensen@deq.idaho.gov

Doug Tanner • 208-236-6160
Douglas.Tanner@deq.idaho.gov

Multistate Trust: Lars Peterson • 208-297-6913 • LP@g-etg.com
Theo von Wallmenich • 517-483-3015 • TV@g-etg.com

Learn More and Be Involved

- ✓ Visit the Multistate Trust's Soda Springs website at: https://sodasprings.greenfieldenvironmental.com
- ✓ Visit EPA's Kerr-McGee, Soda Springs Superfund Site website (including all official records published by EPA for the Site) at: www.epa.gov/superfund/kerr-mcgee-soda-springs
- ✓ Project documents are available for public review at the EPA Information Repository at the Soda Springs Public Library, 149 S. Main Street, Soda Springs, ID 83276.
- ✓ To be added to the Site email and mailing list, please contact Lars Peterson at LP@g-etg.com.